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WATER SUPPLY OUTLOOK FOR NEVADA

Prepared by

U. S. DEPARTMENT of AGRICULTURE * SOIL CONSERVATION SERVICE

Collaborating with

NEVADA DEPARTMENT of CONSERVATION and NATURAL RESOURCES
DIVISION of WATER RESOURCES

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed on the last page of this report.



TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly ar semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 511 N. W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 970, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia

WATER SUPPLY OUTLOOK FOR NEVADA

and FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

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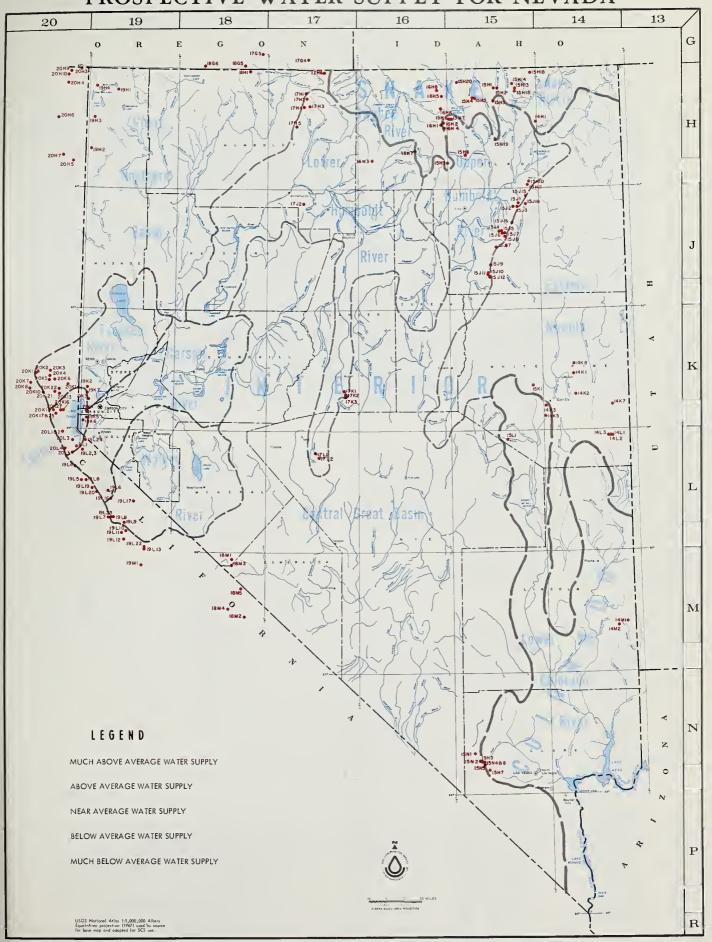
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SOIL CONSERVATION SERVICE P. O. BOX 4850 RENO, NEVADA



PROSPECTIVE WATER SUPPLY FOR NEVADA



INDEX TO NEVADA SNOW COURSES

(By Basins)

Refer to the map on the preceeding page for Snow Course locations

	1	Refer to	the	map on the	preceeding	page	for	Snow Course	e locations.				
NUMBER	NAME	SEC. TWP.	RGE.	ELEV.	1			NUMBER	NAME	5EC.	TWP.	RGE.	ELEV.
	SNAKE RIVER	BASIN		9					TAHOE				
15H1MA 15H2 15H13A 15H15A 14H1 15H2Oa 15H14A 15H18a 15H3A 15H3A	KE RIVER 8ear Creek Fox Creek Goat Creek Hummingbird Springs Jakes Creek Merritt Mountain Pole Creek Ranger Station Red Point 76 Creek Stag Mountain HEE RIVER	31 46N 33 46N 31 46N 6 45N 10 46N 13 46N 15 47N 6 44N 29 41N	58E 58E 60E 60E 62E 54E 59E 61E 58E 58E	7800 6800 8800 8945 7000 7000 8330 7940 7100 7800				20L5 19L2 19K6 19L3M5Z 20L4 19K4M5TZ 20L3 20L1 20L2 20K16 19L1 20K17M 20K255TZ 20K27	Echo Summit (Cal.) Freel Bench (Cal.) Glenbrook #2 Hagans Meadow (Cal.) Lake Lucille (Cal.) Marlette Lake Richardsons #2 (Cal.) Rubicon #1 (Cal.) Rubicon #2 (Cal.) Tahoe City (Cal.) Upper Truckee (Cal.) Ward Creek (Cal.) Ward Creek #2 (Cal.) Tahoe City (Cal.) Tahoe City (Cal.) Tahoe City (Cal.)	6 36 13 36 28 18 6 6 6 21 21 21	11N 12N 14N 12N 12N 15N 13N 13N 15N 15N 15N 15N	18E 18E 18E 17E 19E 17E 17E 17E 17E 16E 16E	7450 7300 6900 8000 8200 8000 6500 8100 7500 6250 6400 7000 6750 6750
15H4MP 16H6a	8ig 8end Columbia 8asin	30 45N 31 44N	56E 53E	6700 6650				TRUC	CKEE RIVER				
16H8a 15H5 16H1M 16H2A 16H4 16H5 17G4a 15H9MP	Fawn Creek Gold Creek Jack Creek, Lower Jack Creek, Upper Jack Speak Laurel Oraw Louse Canyon (Oreg.) Taylor Canyon	2 45N 32 45N 18 42N 9 42N 28 42N 20 45N 27 405 35 39N	52E 56E 53E 53E 53E 53E 44E 53E	7000 6600 6800 7250 8420 6700 6440 6200				20K14 20K22 20K21 20K10 20K7* 20K8* 19L245 20K4MSTPZ	8oca #2 (Cal.) 8rockway Summit (Cal.) 0onner Park #2 (Cal.) Donner Summit (Cal.) Fordyce Lake (Cal.) Furnace Flat (Cal.) Heavenly Valley (Cal.) Independence Camp (Cal.)	28 3 18 25 34 10 1 34	18N 17N 17N 17N 18N 17N 12N 19N	17E 16E 16E 14E 13E 13E 18E	5900 7100 6000 6900 6500 6700 8850 7000
1100	INTERIO	R						20K3 20K5 19K3	Independence Creek (Cal.) Independence Lake (Cal.) Little Valley	14 9 17	19N 18N 16N	15E 15E 19E	6500 8450 6300
15J17a 15J12A 15J1MP 15J3 15H7 15J9MP 15J10	American Beauty Cornal Canyon Oorsey Basin Ory Creek Fry Canyon Green Mountain Harrison Pass #1	32 31 N 27 28 N 28 35 N 5 34 N 31 43 N 23 29 N 9 28 N	58E 57E 60E 60E 54E 57E 57E	7800 8500 8100 6500 6700 8000 6600				19K2 19K7 20K6 20K19 20K13M 20K2* 20K1*	Mt. Rose Mt. Rose 5ki Area Sage Hen Creek (Cal.) Squaw Valley #2 (Cal.) Truckee #2 (Cal.) Webber Lake (Cal.) Webber Peak (Cal.)	7 30 7 6 22 29 30	17N 17N 18N 15N 17N 19N 19N	19E 19E 16E 16E 16E 14E 14E	9000 9000 6500 7500 6400 7000 8000
15J11 15J4	Harrison Pass #2 Lamoille #1	16 28N 15 32N	57E 58E	7400 7100					ON RIVER				
15J5 15J6M 15J7 15J8P 15J18a 15J16a 15H6MP 15J2 15H8 15H10P	Lamoille #2 Lamoille #3 Lamoille #4 Lamoille #5 Pole Canyon Robinson Lake Roded Flat Ryan Ranch Tremewan Ranch Trout Creek, Lower	14 32N 24 32N 19 32N 31 32N 31 35N 23 33N 36 43N 1 34N 9 39N 28 37N	58E 59E 59E 61E 59E 53E 59E 55E 61E	7200 7700 8000 8700 9140 9200 6800 5800 5700 6900		e e.		19L5 19L4 19K5 19L19a 19L16a 19L06a 19L18AS 19L20a	Blue Lakes (Cal.) Carson Pass, Upper (Cal.) Clear Creek Ebbetts Pass (Cal.) Fish Valley, Upper (Cal.) Poison Flat (Cal.) Wet Meadows Lake (Cal.) Wolf Creek (Cal.)	30 22 6 17 1 25 26 35	9N 10N 14N 8N 7N 8N 9N 8N	19E 18E 19E 20E 22E 21E 19E 20E	8000 8600 7300 8700 8050 7900 8100 8000
15H11A	Trout Creek, Upper ER HUMBOLDT RIVER	4 36N	61 E	8500				19L11 19L10	8uckeye Forks (Cal.) 8uckeye Roughs (Cal.)	20 15	4N 4N	23E 23E	8500 7900
17K1 17K2 17K3 17K3 17H2 17H1 17L1 17L2 17J2	Big Creek Mine Big Creek Mine Big Creek, Upper Buckskin, Lower Buckskin, Lower Corral, Lower Corral, Upper Golconda #2 Granite Peak	10 17N 23 17N 26 17N 25 45N 11 45N 12 11N 20 11N 22 35N 22 44N	43E 43E 43E 39E 39E 40E 41E 39E 39E	6600 7600 7800 6700 8200 7500 8000 6000 7800				19L12A 19L8 19L17a 19L7M 19L23STPZ 19M1* 19L13 19L22MSZ 19L9	Center Mountain (Cal.) Leavitt Meadows (Cal.) Lobdell Lake (Cal.) Sonora Pass (Cal.) Sonora Pass (Cal.) Sonora Pass (Cal.) Virginia Lakes (Cal.) Virginia Lakes Ridge Willow Flat (Cal.)	20 1 6 30 5 32 21	3N 5N 7N 5N 5N 1N 2N 3N	23E 22E 24E 21E 22E 25E 25E 25E 25E 23E	9400 7200 9200 8800 8800 9900 9500 9200 8250
1 7H5 1 7H3 16H3AP	Lamance Creek Martin Creek Midas	13 42N 18 44N 18 39N	38E 40E 46E	6000 6700 7200				LOWE	COLORAD R COLORADO RIVER	0			
16H7	Toe Jam a FERN NEVADA	29 40N	50E	7700	-			15N5 15N4	Kyle Canyon Lee Canyon #1	27 10	195 195	56E 56E	8200 8400
14L1 14L2 14L3 14K2 14K1 15J15 14K8 14K3 15K1 14K7 14K7	Baker #1 Baker #2 Baker #3 Berry Creek Bird Creek Hole-In-Mountain Kalamazoo Creek Murray Summit Robinson Summit Silver Creek #2 Ward Mountain #2	29 13N 30 13N 25 13N 26 17N 34 19N 6 35N 34 20N 25 16N 30 16N 25 15N	69E 69E 68E 65E 65E 61E 62E 61E 69E 62E	7950 8950 9250 9100 7500 7900 7400 7250 7600 8900				15N3 15N3 15N8 14M1 14M2 15N7	Lee Canyon #2 Lee Canyon #3 Mathew Canyon Pine Canyon Rainbow Canyon #2 White River #1	10 10 10 23 6 31	19S 19S 6S 6S 2OS 13N	56E 56E 70E 69E 57E 59E	9200 8500 6000 6200 8100 7400
CEN	TRAL GREAT BASIN												
18M2 18M5a 15N2 18M1 18M3a 18M4a 15N1	Campito Mountain (Cal.) Chiatovich Flat Clark Canyon Montgomery Pass Pinchot Creek Piute Pass (Cal.) Trough 5prings	19 5S 32 2S 8 195 4 1N 28 1N 33 4S 23 185	35E 34E 56E 33E 33E 33E 55E	10200 10500 9000 7100 9300 11700 8500									
NOR"	THERN GREAT BASIN								LEGEND NUMBERING SYSTEM (EXA	MPLE)			
19H1 20H5 20H6 18G6a 18H1 20H3a 20H7 19H3 19H2 19H4a 20H9 20H10 1755a 17H6a 20H4	Bald Mountain Barber Creek (Cal.) Cedar Pass (Cal.) Oenio Creek (Oreg.) Oisaster Peak Oismal Swamp (Cal.) Eagle Peak (Cal.) 49-Mountain Hays Canyon Little Bally Mountain Mt. 8idwell North Star Oregon Canyon (Oreg.) Quinn Ridge Reservation Creek (Cal.)	17 45N 23 39N 12 43N 14 415 8 47N 31 48N 35 40N 7 42N 1 39N 8 45N 6 47N 13 47N 9 40S 9 47N 12 46N	21E 16E 14E 34E 34E 17E 19E 19E 16E 15E 40E 41E	6720 6500 7100 6000 6500 7000 7200 6000 6400 7200 6200 7240 6300 5900				19K45 St 19K4M St 19K4P St 19K4PM St 19K4MP St 19K4MP St 19K4STZ St Tr Lower case only a Sotil tation Gage	now Course Only Now Course and Snow Pillow Now Course and Soil Moisture Now Course and Asrial Marker Now Course and Storage Preci Now Course, Soil Moisture an Now Course, Snow Pillow and letters m, a, p, s, t, 2, i Moisture Station, Aerial M , Snow Pillow, Temperature,	pitati d Aeri d Prec Temper ndicat	al Mai ripitat rature se no s Store	rker tion Ga Radio snow co age Pre	urse, cipi-
18G5a	Trout Creek (Oreg.)	10 415	38E	7800	1			Located	l on adjacent watershed				

WATER SUPPLY OUTLOOK FOR NEVADA

JANUARY 1, 1973, SNOW SURVEYS AT KEY SNOW COURSES IN WESTERN AND NORTH-EASTERN NEVADA INDICATE THE EARLY SEASON SNOWPACK VARIES FROM 75 PERCENT OF AVERAGE ON THE EAST SLOPE OF THE SIERRA RANGE TO 150 PERCENT PLUS IN THE UPPER HUMBOLDT AND OWYHEE RIVER DRAINAGES.

RESERVOIR STORAGE HAS INCREASED SINCE LAST FALL, AND IN AGGREGATE THE PRINCIPAL IRRIGATION RESERVOIRS THROUGHOUT THE STATE CONTAIN 138 PERCENT OF AVERAGE STORAGE FOR THIS DATE.

Mountain snowpack in the Sierras is below normal, with a range of 76 percent in the Lake Tahoe and Truckee River Watershed to 83 percent in the Carson and Walker River drainages. Recent rainstorms in the Sierras have depleted much of the early season snowpack in the median and low mountain elevation zones. Normally, by the first of January 40-50 percent of the snowpack is on the ground; this year there is about 33 percent.

Snow conditions in northeastern Nevada are much better. The Owyhee River drainage has a 150 percent of average snowpack, while the Upper Humboldt has nearly twice the normal snowpack for this date.

Reservoir storage throughout the state is very good. Storage is 17 percent less than last year at this time, but still remains at 138 percent of average. The Truckee River has nearly 620,000 acre-feet of storage in major reservoirs and Lake Tahoe. Lahontan Reservoir in the Carson River drainage contains 123,000 acre-feet, which is 132 percent of normal. Storage in the Walker River system is below normal at 81 percent. Wild Horse and Rye Patch Reservoirs, on the Owyhee and Humboldt Rivers, contain nearly 250 percent of normal carryover storage.

Mountain soil moisture throughout Nevada is drier than normal, and the watersheds will consume some of this season's snow water prior to runoff to fill the moisture void.

Although it is much too early in the season to accurately predict the coming season's water supply, it is evident the next three months will need to produce above normal snowfall, especially in the Sierra Nevada, to insure adequate supplies next summer.



RESERVOIR STORAGE (Thousand Acre Feet) os of January 1, 1973

		Usable		Usable Storage			
Basin of Stream	RESERVOIR	Capacity	This Year	Last Year	Averaget		
Owyhee	Wild Horse	72	57	57	13		
Lower Humboldt	Rye Patch	179	141	164	64		
Colorado	Mohave	1,810	1,494	1,538	1,618		
Colorado	Mead	27,217	18,645	17,645	16,895		
Tahoe	Tahoe	732	454	550	376		
Truckee	Boca	41	29	32	10		
Truckee	Stampede	220	123	122	*		
Truckee	Prosser ***	30	9	8	10**		
Carson	Lahontan	286	197	235	149		
West Walker	Topaz	59	21	31	26		
East Walker	Bridgeport	42	18	31	22		
** Adjusted avera	August 1, 1969 age use allocation of	20 000 acre					
	November 1 and A						

TOTAL RESERVOIR STORAGE (Thousand Acre Foet)

монтн	This Year	Last Year	Average +
October 1	867	1,038	656
January l	917	1,100	660
February 1		1,111	715
March l		1,140	768
April 1		1,227	839
May 1		1,232	890

The above data developed from Wild Horse, Rye Patch, Tahoe, Boca, Lahonton, Topaz, and Bridgeport Reservoirs in 1,000 Acre-Feet.

TOTAL USABLE CAPACITY 1,411



OW COURSE MEASUREMENTS		THIS YEAR		PAST RECORD Water Content (inches)		
DRAINAGE BASIN and/or SNOW COURSE NAME	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average	
	1000000			1.		
OWYHEE RIVER	60.5					
Big Bend	12/28	1.8	3.9	7.4	2.6*	
Gold Creek		10				
Taylor Canyon		12	3.2		1.6*	
14, 101 041, 011	* 776					
HUMBOLDT RIVER						
Fry Canyon	12/29	19	4.8	6.3		
Rodeo Flat	12/29	20	4.7	6.3		
Tremewan Ranch	1.2/28	5	2.3	2.0	0.4	
LAKE TAHOE-TRUCKEE RIVER						
Donner Summit	12/28	33	11.9	21.8	_	
Fordyce Lake	12/27	33 30	13.0	-	-	
Freel Bench	12/29	16	4.3	11.6	-	
Furnace Flat	12/27 12/30 12/29	36	15.4	-	-	
Glenbrook #2	12/30	13	3.1	7.9	-	
Hagans Meadow	12/29	28		15.0	-	
Heavenly Valley	12/27	32 31	21.0	17.0	-	
Independence Camp Marlette Lake	12/26 12/29				-	
Mount Rose Ski Area	12/27		17.8		_	
Richardsons #2	12/29	23	7.0	6.9	_	
Tahoe City Alternate	12/27	10	3.6		_	
Tahoe City Cross	12/27	15	5.9		-	
Tahoe City	12/27	6	2.5	-	-	
Upper Truckee	12/29	13	3.3	9.8	-	
Ward Creek #2	12/27	32	12.5		-	
Ward Creek #3	12/27	29	10.1	15.5	-	
CARSON-WALKER RIVERS						
Sonora Pass	12/28	29	8.7 6.9 6.7 4.7	19.8	_	
Virginia Lakes	12/27	24	6.9	14.2	-	
Virginia Lakes Ridge	12/27	25	6.7	12.9	-	
Willow Flat	12/28	20	4.7	-	-	
SNAKE RIVER						
Bear Creek	12/26	35	9.8a	_	-	
Goat Creek	12/26	36	10.2a	-	-	
Hummingbird Springs	12/26	36	10.2a	-	-	
Pole Creek Ranger Station	12/27	36	10.2	-	-	
Red Point	12/26	10			-	
76 Creek	12/26	22	6,2a	-	-	
					1953-1967 per	



PEAK FLOWS (MAXIMUM MEAN DAILY) (Av. flow for 24 hrs. on day of greatest flow)

	PEAK FLOW (SECOND FEET)				
FORECAST POINT	Forecast Range	Average +			
Peak flow forecasts not issued until March 1, 1973					

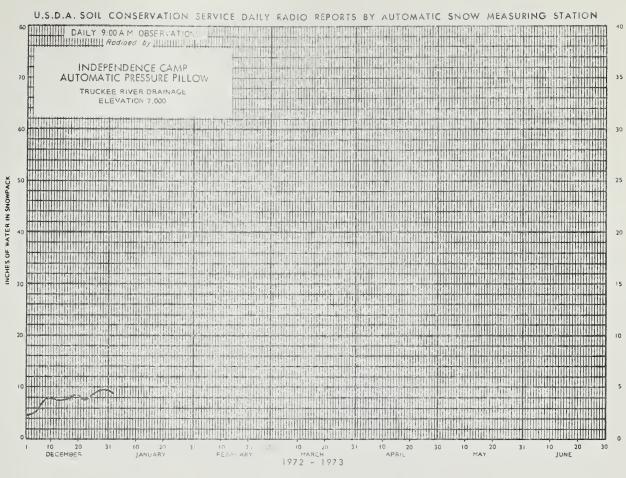
FORECAST DATE of LOW FLOW VALUES

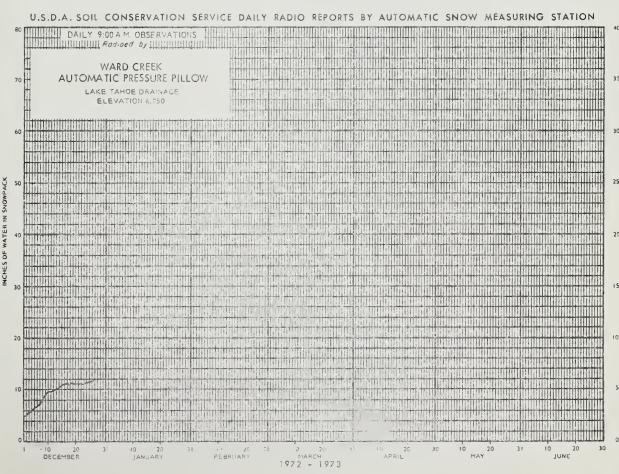
FORECAST POINT	Low Flow Value Second/ Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Low flow forecast not issued until March 1, 1973	And the second		

SOIL MOISTURE MEASUREMENTS

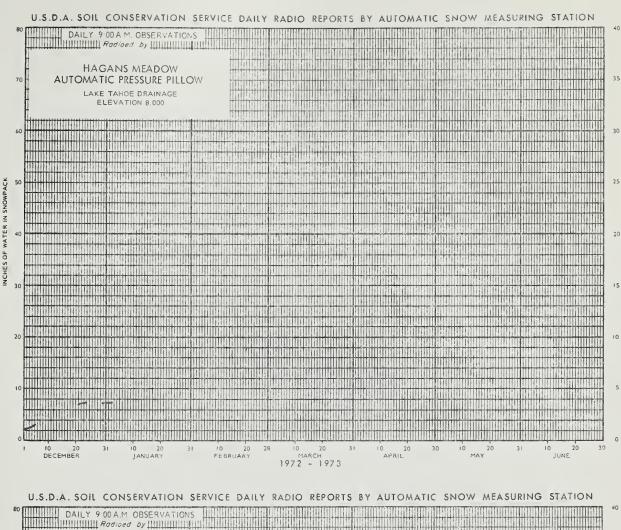
	Profile	(Inches)	Sc	Soil Moisture (Inches)		
STATION	Depth	Capacity	Date	This Year	Average +	
OWYHEE-HUMBOLDT BASIN						
Big Bend	48	16.7	12/28	11.9	15.4*	
Rodeo Flat	42	11.0	12/29	5.5	10.3*	
Taylor Canyon	48	15.1	12/29	10.9	13.2*	
TAHOE-TRUCKEE BASIN						
Hagans Meadow	36	3.7	12/29	2.8	3.0*	
Independence Camp	34	6.1	12/26	1.2	5.3*	
Marlette Lake	50	3.7	est.	1.7	1.9*	
Ward Creek	49	5.8	12/27	3.5	4.3*	
WALKER BASIN						
Sonora Pass	48	8.3	12/28	5.7	-	
Virginia Lakes	40	5.0	12/27	2.1		
* Adjusted average						
					10521047	

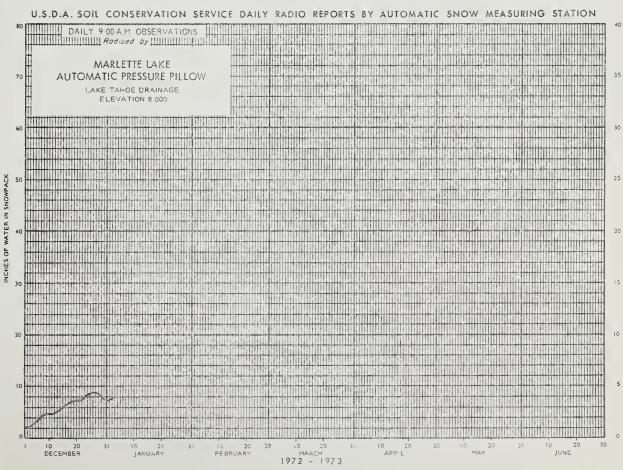




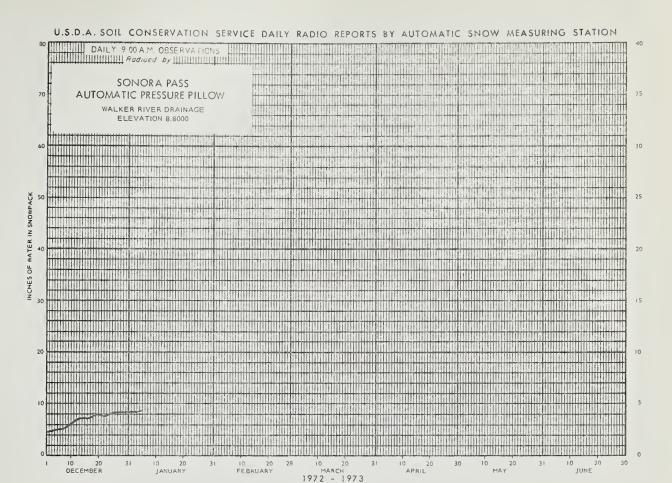


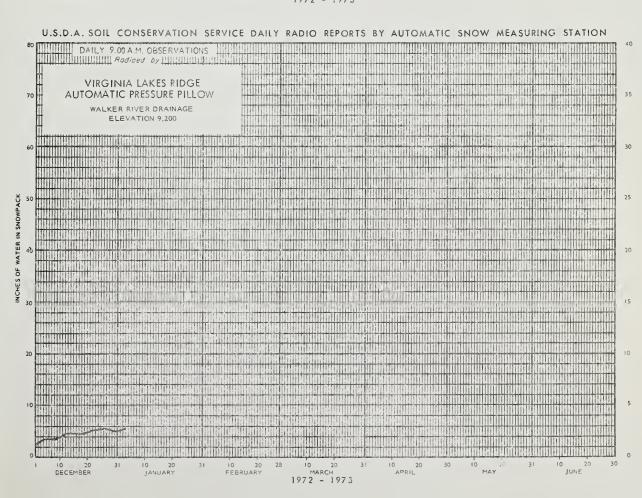














Agencies Cooperating in Collecting Data Contained in this Bulletin

FEDERAL

Agricultural Research Service
Bureau of Reclamation
Fish and Wildlife Service
Forest Service
Geological Survey
Navy
Soil Conservation Service
U. S. District Court - Federal Water Master
NOAA, National Weather Service

STATE

California Cooperative Snow Surveys
California Department of Parks and Recreation
California Department of Water Resources
Colorado River Commission of Nevada
Idaho Cooperative Snow Surveys
Nevada Association of Conservation Districts
Nevada Department of Conservation & Natural Resources
Division of Water Resources
Nevada State Forester
Oregon Cooperative Snow Surveys
Utah Cooperative Snow Surveys
White Mountain Research Station, Univ. of California

PRIVATE

Amalgamated Sugar Company
Kennecott Copper Corporation
Nevada Irrigation District
Owyhee Project North Board of Control
Owyhee Project South Board of Control
Pacific Gas and Electric Company
Pershing County Water Conservation District
Sierra Pacific Power Company
Truckee-Carson Irrigation District
Walker River Irrigation District
Washoe County Water Conservancy District

Other organizations and individuals furnish valuable information for the snow survey reports. Their Cooperation is gratefully acknowledged.

P.O. BOX 4850 Reno, Nevada 89505

PENALTY FOR PRIVATE USE, \$300







FEDERAL - STATE - PRIVATE

COOPERATIVE SNOW SURVEYS

domestic and municipal water supply, hydro-electric power water supply for irrigation, necessary for forecasting generation, navigation, Furnishes the basic data mining and industry "The Conservation of Water begins with the Snow Survey"